(A) Y_{WSFTP}(NMHC)=results of paragraph (c)(1)(i) of this section for NMHC.

(B) $Y_{WSFTP}(NO_X)$=results of paragraph (c)(1)(i) of this section for NO_X.

(2) When the test vehicle is not equipped with air conditioning, the relationship of paragraph (c)(1)(i) of this section is:

(i) $Y_{WSFTP}=0.72(Y_{FTP})+0.28(Y_{US06})$

Where:

(A) Y_{WSFTP}=Mass emissions per mile for a particular pollutant weighted in terms of the contributions from the FTP and US06 schedules. Values of Y_{WSFTP} are obtained for each of the exhaust emissions of NMHC, NO_X. and CO.

(B) Y_{FTP}=Weighted mass emissions per mile (Ywm) based on the measured driving distance of the FTP test schedule.

(C) Y_{US06}=Calculated mass emissions per mile based on the measured driving distance of the US06 test schedule.

(ii) Composite (NMHC+NO_X) = Y_{WSFTP}(NMHC) + $Y_{WSFTP}(NO_X)$

Where:

(A) Y_{WSFTP}(NMHC)=results of paragraph (c)(2)(i) of this section for NMHC.

(B) $Y_{WSFTP}(NO_X)$=results of paragraph (c)(2)(i) of this section for NO_X.

(d) The NO_X humidity correction factor for adjusting NO_X test results to the environmental test cell air conditioning ambient condition of 100 grains of water/pound of dry air is:

K_H (100)=0.8825/[1–0.0047(H–75)]

Where:

H=measured test humidity in grains of water/pound of dry air.

[61 FR 54900, Oct. 22, 1996, as amended at 70 FR 40434, July 13, 2005]

§ 86.164–08 Supplemental Federal Test Procedure calculations.

(a) The provisions of § 86.144–94 (b) and (c) are applicable to this section except that the NO_X humidity correction factor of § 86.144–94(c)(7)(iv) must be modified when adjusting SC03 environmental test cell NO_X results to 100 grains of water according to paragraph (d) of this section. These provisions provide the procedures for calculating mass emission results of each regulated exhaust pollutant for the test schedules of FTP, US06, and SC03.

(b) The provisions of § 86.144–94(a) are applicable to this section. These provisions provide the procedures for determining the weighted mass emissions for the FTP test schedule (Y_{wm}).

(c)(1) When the test vehicle is equipped with air conditioning, the final reported test results for the SFTP composite (NMHC+NO_X) and optional composite CO standards shall be computed by the following formulas.

(i) $Y_{WSFTP} = 0.35(Y_{FTP}) + 0.37(Y_{SC03}) + 0.28(Y_{US06})$

Where:

(A) Y_{WSFTP} = Mass emissions per mile for a particular pollutant weighted in terms of the contributions from the FTP, SC03, and US06 schedules. Values of Y_{WSFTP} are obtained for each of the exhaust emissions of NMHC, NO_X and CO.

(B) Y_{FTP} = Weighted mass emissions per mile (Y_{WM}) based on the measured driving distance of the FTP test schedule.

(C) Y_{SC03} = Calculated mass emissions per mile based on the measured driving distance of the SC03 test schedule.

(D)(*1*) Y_{US06} = Calculated mass emissions per mile based on the measured driving distance of the US06 test schedule; or,

(*2*) In the case of a 2-phase US06 test run according to the provisions of § 86.159–08(f)(2) and part 600 of this chapter:

YUS06 = Calculated mass emissions per mile, using the summed mass emissions of the ''US06 City'' phase and the ''US06 Highway'' phase, based on the measured driving distance of the US06 test schedule. The ''US06 City'' phase shall be sampled during seconds 0–130 and from 495 seconds until five seconds after the engine stops running (*e.g.* 602 or 603 seconds) of the US06 driving schedule. The ''US06 Highway'' phase shall be sampled during seconds 130–495 of the US06 driving schedule),

(ii) Composite (NMHC+NO_X) = Y_{WSFTP}(NMHC) + $Y_{WSFTP}(NO_X)$

Where:

(A) Y_{WSFTP}(NMHC) = results of paragraph (c)(1)(i) of this section for NMHC.

(B) $Y_{WSFTP}(NO_X)$ = results of paragraph (c)(1)(i) of this section for NO_X.

(2) When the test vehicle is not equipped with air conditioning, the final reported test results for the SFTP

composite (NMHC+NO_X) and optional composite CO standards shall be computed by the following formulas.

(i) $Y_{WSFTP} = 0.72(Y_{FTP})+0.28(Y_{US06})$

Where:

(A) Y_{WSFTP} = Mass emissions per mile for a particular pollutant weighted in terms of the contributions from the FTP and US06 schedules. Values of Y_{WSFTP} are obtained for each of the exhaust emissions of NMHC, NO_X and CO.

(B) Y_{FTP} = Weighted mass emissions per mile (Ywm) based on the measured driving distance of the FTP test schedule.

(C)(*1*) Y_{US06} = Calculated mass emissions per mile based on the measured driving distance of the US06 test schedule; or,

(*2*) In the case of a 2-phase US06 test run according to the provisions of § 86.159–08(f)(2) and part 600 of this chapter:

YUS06 = Calculated mass emissions per mile, using the summed mass emissions of the ''US06 City'' phase and the ''US06 Highway'' phase, based on the measured driving distance of the US06 test schedule. The ''US06 City'' phase shall be sampled during seconds 0–130 and from 495 seconds until five seconds after the engine stops running (*e.g.* 602 or 603 seconds) of the US06 driving schedule. The ''US06 Highway'' phase shall be sampled during seconds 130–495 of the US06 driving schedule),

(ii) Composite (NMHC+NO_X) = Y_{WSFTP}(NMHC) + Y_{WSFTP}(NO_X)

Where:

(A) Y_{WSFTP}(NMHC) = results of paragraph (c)(2)(i) of this section for NMHC.

(B) Y_{WSFTP}(NO_X) = results of paragraph (c)(2)(i) of this section for NO_X.

(d) The NO_X humidity correction factor for adjusting NO_X test results to the environmental test cell air conditioning ambient condition of 100 grains of water/pound of dry air is:

K_H (100) = 0.8825/[1–0.0047(H–75)]

Where:

H = measured test humidity in grains of water/pound of dry air.

[71 FR 77922, Dec. 27, 2006, as amended at 74 FR 61548, Nov. 25, 2009]

§ 86.165–12 Air conditioning idle test procedure.

(a) *Applicability.* This section describes procedures for determining air conditioning-related CO_2 emissions from light-duty vehicles, light-duty trucks, and medium-duty passenger vehicles. The results of this test are used to qualify for air conditioning efficiency CO_2 credits according to § 86.1866–12(c).

(b) *Overview.* The test consists of a brief period to stabilize the vehicle at idle, followed by a ten-minute period at idle when CO_2 emissions are measured without any air conditioning systems operating, followed by a ten-minute period at idle when CO_2 emissions are measured with the air conditioning system operating. This test is designed to determine the air conditioning-related CO_2 emission value, in grams per minute. If engine stalling occurs during cycle operation, follow the provisions of § 86.136–90 to restart the test. Measurement instruments must meet the specifications described in this subpart.

(c) *Test cell ambient conditions.* (1) Ambient humidity within the test cell during all phases of the test sequence shall be controlled to an average of 50 ± 5 grains of water/pound of dry air.

(2) Ambient air temperature within the test cell during all phases of the test sequence shall be controlled to 75 ± 2 °F on average and 75 ± 5 °F as an instantaneous measurement. Air temperature shall be recorded continuously at a minimum of 30 second intervals.

(d) *Test sequence.* (1) Connect the vehicle exhaust system to the raw sampling location or dilution stage according to the provisions of this subpart. For dilution systems, dilute the exhaust as described in this subpart. Continuous sampling systems must meet the specifications provided in this subpart.

(2) Test the vehicle in a fully warmed-up condition. If the vehicle has soaked for two hours or less since the last exhaust test element, preconditioning may consist of a 505 Cycle, 866 Cycle, US06, or SC03, as these terms are defined in § 86.1803–01, or a highway fuel economy test procedure, as defined in § 600.002–08 of this chapter. For soak